If I had a hammer:
Web Services as your favorite nail

Panelists

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What are Web Services?

W3C Definition

A Web Service is a software application identified by a URI, whose interfaces and binding are capable of being defined, described and discovered by XML artifacts and supports direct interactions with other software applications using XML based messages via Internet-based protocols.

Others

- Electronic Data Interchange for the 21st century.
- The grand unification of the web, databases, XML, and distributed systems.
- RPC standards that everyone can agree on.
- The end of screen-scraping.
- An excuse to build even slower, more complicated distributed frameworks.
Inevitability of Web Services

- *Good enough* is good enough
  - Satisficing across goals

- Anyone can be a middleware developer!
  - Simplified application development
  - Programming as configuration
  - Will classic middleware get squeezed out?

- Strong separation of development roles/tasks
  - Development mirrors organization
Some Challenges

- Performance
  - Reducing orders-of-magnitude penalties
  - Guaranteeing Quality of Service and Scalability

- Complexity, quality, and reliability
  - Refactoring massive middleware substrates
  - Learning from the past instead of layering over it

- Programming models
  - Unifying stateful services & stateful resources
  - Transactions, Identity, messages, composition

- Programming
  - Languages? scripting? frameworks? tools?
Resources vs Services

- Web resources
  - Web designed for REpresentational State Transfer (Roy Fielding's REST)
    - Stateless interaction using trivial protocols
    - Client obtains representation of server resource
      - Applies content handlers
  - Distributed services
    - CORBA etc designed for stateful interactions using typed interfaces to obtain services
    - Also Message and/or Event-oriented frameworks
- Web services
  - Intrinsic tensions: interfaces, consistency, statefulness, transactionality, groups, ...